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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,437	02/10/2004	Jagrut V. Patel	030222	2918

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EXAMINER	
HUANG, WEN WU	
ART UNIT	**PAPER NUMBER**
2618	

NOTIFICATION DATE	DELIVERY MODE
07/18/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/776,437	PATEL ET AL.	
	Examiner	Art Unit	
	Wen W. Huang	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15 and 30-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15 and 30-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/23/07 has been entered.

Claims 1-15 and 30-39 are pending.

Claims 16-29 are cancelled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-15, 30-33, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitagawa (US. 6,624,613 B2) in view of Shyr et al. (US. 5,903,764; hereinafter "Shyr").

Regarding **claim 1**, Kitagawa teaches a power source, comprising:

first and second batteries (see Kitagawa, fig. 3, components 14x and 14y; col. 5, lines 33-34); and

a power management module (see Kitagawa, fig. 3, components 12x, 12y and 17) configured to operate each of the first and second batteries in a pulse current discharge mode (see Kitagawa, fig. 3, component 25) while supplying continuous current to a load (see Kitagawa, fig. 21 and 36; col. 11, lines 31-45 and col. 16, lines 39-52; the continuous supplying of current is insured by Step 21 of fig. 36, wherein SWX is on before SWY is off).

Kitagawa is silent to teaching that the power source for a wireless communication device comprising a power management module responsive to the wireless communication being operated in a traffic state. However, the claimed limitation is well known in the art as evidenced by Shyr.

In the same field of endeavor, Shyr teaches a power source for a wireless communication device (see Shyr, col. 1, lines 14) comprising a power management module (see Shyr, fig. 1a, Smart Battery Selector 24) responsive to the wireless communication being operated in a traffic state (see Shyr, col. 11, lines 1-7; "operating mode").

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Kitagawa with the teaching of Shyr in order to meet the operating constraints imposed by having two batteries (see Shyr, col. 2, lines 53-67).

Regarding **claim 2**, the combination of Kitagawa and Shyr also teaches the power source of claim 1 wherein the power management module comprises a switch control module (see Kitagawa, fig. 3, component 17 and fig. 20), and a switch (see Kitagawa, fig. 3, components 12x and 12y) configured to intermittently couple (see Kitagawa, fig. 20 and 21, components 91 and 92) the first and second batteries to the load (see Kitagawa, fig. 3, component 10) under control of the switch control module (see Kitagawa, fig. 3, component 17).

Regarding **claim 3**, the combination of Kitagawa and Shyr further teaches the power source of claim 2 wherein the switch comprises a first switch (see Kitagawa, fig. 3, component 12x) configured to intermittently couple the first battery (see Kitagawa, fig. 3, component 14x and fig. 36 components S23 and S21) to the load under control of the switch control module (see Kitagawa, fig. 3, component 17), and a second switch (see Kitagawa, fig. 3, component 12y) configured to intermittently couple the second battery to the load (see Kitagawa, fig. 3, component 14y and fig. 36, components S28 and S21) under control of the switch control module (see Kitagawa, fig. 3, component 17).

Regarding **claim 4**, the combination of Kitagawa and Shyr also teaches the power source of claim 3 wherein the first and second switches each comprises a field effect transistor (see Kitagawa, fig. 3, component "FET 21"; col. 5, lines 43-44).

Regarding **claim 5**, the combination of Kitagawa and Shyr further teaches the power source of claim 3 wherein the power management module is further configured to measure (see Kitagawa, fig. 3, components 15x and 15y) the current supplied to the load (see Kitagawa, fig. 3, component 10), the switch control module being further configured to control the switch as a function of the measured current (see Kitagawa, fig. 20, components 86x and 86y and col. 11, lines 36-46).

Regarding **claim 6**, the combination of Kitagawa and Shyr teaches the power source of claim 5 wherein the switch control module is further configured to control the switch such that the first and second batteries are continuously coupled to the load (see Kitagawa, fig. 36, component S21) if the measured current is below a threshold (see Kitagawa, fig. 36, components S22 and S27).

Regarding **claim 7**, the combination of Kitagawa and Shyr teaches the power source of claim 5 wherein the switch control module is further configured to control the switch such that each of the first and second batteries are intermittently (see Kitagawa, fig. 36 components S23, S28 and S21) coupled to the load if the measured current reaches a threshold for a period of time (see Kitagawa, fig. 36, component S31).

Regarding **claim 8**, the combination of Kitagawa and Shyr also teaches the power source of claim 3 wherein the switch control module is further configured to control the switch such that the first battery is coupled to the load (see Kitagawa, fig. 36,

component S21) before removing the second battery from the load (see Kitagawa, fig. 36, component S23 or S28).

Regarding **claim 9**, the combination of Kitagawa and Shyr further teaches the power source of claim 2 wherein the switch control module is further configured to control the switch as a function of voltage measured (see Kitagawa, fig. 10) at each of the first and second batteries (see Kitagawa, col. 7, lines 60-66).

Regarding **claim 10**, the combination of Kitagawa and Shyr teaches the power source of claim 2 wherein the switch control module is further configured to control the switch to couple one of the first and second batteries having the highest voltage to the load (see Kitagawa, fig. 9 and fig. 37, component S43).

Regarding **claim 11**, Kitagawa teaches a power source, comprising:

first and second batteries (see Kitagawa, fig. 3, components 14x and 14y; col. 5, lines 33-34); and

means for (see Kitagawa, fig. 3, components 12x, 12y and 17) operating each of the first and second batteries in a pulse current discharge mode (see Kitagawa, fig. 3, component 25) while supplying continuous current to a load (see Kitagawa, fig. 21 and 36; col. 11, lines 31-45 and col. 16, lines 39-52; the continuous supplying of current is insured by Step 21 of fig. 36, wherein SWX is on before SWY is off).

Kitagawa is silent to teaching a power source for a wireless communication device comprising means for operating each of the first and second batteries responsive to the wireless communication device being operated in a traffic state. However, the claimed limitation is well known in the art as evidenced by Shyr.

In the same field of endeavor, Shyr teaches a power source for a wireless communication device (see Shyr, col. 1, lines 14) comprising means for operating each of the first and second batteries (see Shyr, fig. 1a, Smart Battery Selector 24, Smart Batteries A and B) responsive to the wireless communication being operated in a traffic state (see Shyr, col. 11, lines 1-7; "operating mode").

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Kitagawa with the teaching of Shyr in order to meet the operating constraints imposed by having two batteries (see Shyr, col. 2, lines 53-67).

Regarding **claims 12-15**, the dependent claims are interpreted and rejected for the same reasons as set forth above in claims 3, 5, 8 and 9, respectively.

Regarding **claim 30**, Kitagawa teaches a communications device, comprising:

a processor configured to support communications (see Kitagawa, col. 1, lines 14-15; note book personal computer);

first and second batteries (see Kitagawa, fig. 3, components 14x and 14y; col. 5, lines 33-34); and

a power management module (see Kitagawa, fig. 3, components 12x, 12y and 17) configured to operate each of the first and second batteries in a pulse current discharge mode (see Kitagawa, fig. 3, component 25) while supplying continuous current to the processor (see Kitagawa, fig. 21 and 36; col. 11, lines 31-45 and col. 16, lines 39-52; the continuous supplying of current is insured by Step 21 of fig. 36, wherein SWX is on before SWY is off).

Kitagawa is silent to teaching a communication device for wireless communications comprising:

a processor configured to support wireless communications; and

a power management module responsive to the wireless communication being operated in a traffic state. However, the claimed limitation is well known in the art as evidenced by Shyr.

In the same field of endeavor, Shyr teaches a communication device for wireless communications (see Shyr, col. 1, lines 14) comprising:

a processor configured to support wireless communications (see Shyr, fig. 1, CPU 32); and

a power management module (see Shyr, fig. 1a, Smart Battery Selector 24) responsive to the wireless communication being operated in a traffic state (see Shyr, col. 11, lines 1-7; "operating mode").

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Kitagawa with the teaching

of Shyr in order to meet the operating constraints imposed by having two batteries (see Shyr, col. 2, lines 53-67).

Regarding **claims 31-33, 38 and 39**, the dependent claims are interpreted and rejected for the same reasons as set forth above in claims 2-4, 9 and 10, respectively.

2. Claims 34, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitagawa and Shyr as applied to claim 32 above, and further in view of Leifer (US. 6,459,171 B1)

Regarding **claim 34**, the combination of Kitagawa and Shyr teaches the wireless communications device of claim 32.

The combination of Kitagawa and Shyr is silent to teaching that wherein the processor is further configured to operate in an idle state, the switch control module further being configured to control the switch as a function of the processor state.

In related art, Leifer teaches that wherein the processor (see Leifer, fig. 2, component 201) is further configured to operate in an idle state (see Leifer, col. 5, lines 14-20), the switch control module further being configured to control the switch as a function of the processor state (see Leifer, col. 5, lines 20-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Kitagawa and Shyr with the teaching of Leifer in order to improve power consumption efficiency for a system with a plurality of power sources (see Leifer, col. 1, lines 34-35).

Regarding **claim 36**, the combination of Kitagawa, Shyr and Leifer also teaches the wireless communications device of claim 34 wherein the switch control module (see Leifer, fig. 2, component 217) is further configured to control the switch (see Leifer, fig. 2, components 221 and 219) such that each of the first and second batteries are intermittently (see Leifer, fig. 3) coupled to the processor (see Leifer, fig. 2, component 201) if the processor is in the traffic state (see Leifer, col. 6, lines 32-39).

Regarding **claim 37**, the combination of Kitagawa, Shyr and Leifer also teaches the wireless communications device of claim 34 wherein the power control module is further configured to determine the processor state as a function of the current (see Leifer, fig. 2, component 215) supplied to the processor (see Leifer, col. 4, lines 26-29).

3. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitagawa, Shyr and Leifer as applied to claim 34 above, and further in view of Mole et al. (US. US. 6,522,873B1)

Regarding **claim 35**, the combination of Kitagawa, Shyr and Leifer teaches the wireless communications device of claim 34.

The combination of Kitagawa, Shyr and Leifer is silent to teaching that wherein the switch control module is further configured to control the switch such that the first

and second batteries are continuously coupled to the processor if the processor is in the idle state.

In related art, Moles et al teach a wireless communication device (see Moles et al, col. 1, lines 26-30) wherein a switch control module (see Moles et al, fig. 2, component 230) is further configured to control a switch such that the first (see Moles et al, fig. 2, component 250) and second (see Moles et al, fig. 2, component 260) batteries are continuously (see Moles et al, fig. 3, component 330, "non-slotted mode") coupled to the processor if the processor is in the idle state (see Moles et al, col. 1, lines 55-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Kitagawa and Leifer with the teaching of Moles in order to improve wireless communication devices that are less likely to losing a communication (see Moles et al, col. 2, lines 19-21).

Response to Arguments

Applicant's arguments with respect to claims 1, 11 and 30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shibasaki et al. (US. 5,270,946) teach pulse current discharging mode.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen W. Huang whose telephone number is (571) 272-7852. The examiner can normally be reached on 10am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

wwh

6/11/07

MATTHEW ANDERSON
SUPERVISORY PATENT EXAMINER